

In Brief



USDA Forest Service • Pacific Southwest Region

Pitch Canker

Background

Pitch canker is a recently introduced fungal disease that poses a severe threat to the native Monterey pine stands along California's central coast. Monterey and bishop pines are especially susceptible, although other non-native and native California pines do become infected. The disease was first reported in California in 1986, and is now found in 14 coastal and adjacent inland counties from San Diego to Mendocino.

On November 5, 2003, the New Zealand Ministry of Agriculture and Forestry (MAF) reported that DNA evidence had confirmed the presence of the pitch canker fungus in one yellowed graft from a consignment of Douglas-fir cuttings imported from the Badger Hill Orchard on the Eldorado National Forest. The confirmed record of pitch canker from Badger Hill is the first report of the pathogen in the Sierra Nevada.

The cuttings were being held in quarantine in New Zealand, when the infection was detected and the plant materials destroyed without risk to the New Zealand environment. New Zealand has suspended any further imports of pitch canker host material from the United States and is reviewing long-term requirements.

Pitch canker is caused by a fungus called *Fusarium circinatum*. The pathogen produces airborne spores that can be spread by wind and carried by insects. New infections are primarily established by bark, twig and cone beetles. Long distance spread more likely results from people transporting logs, nursery stock, seeds or soil in which the pathogen is known to survive for long periods of time. There is no chemical treatment to control pitch canker. Disease management is limited to control of spores, reduction of carriers' (beetles) breeding material, restricted planting of susceptible tree species and selecting resistant trees.

Douglas-fir is a host of *Fusarium circinatum* in coastal counties, but is less susceptible to pitch canker than pine trees. Because the pitch canker pathogen appears to prefer moist, warm environments for infection and growth, the climate of the Sierra Nevada may limit the spread and impact of disease on Douglas-fir as well as on pines.

Current Situation

- Researchers at UC Davis and the Forest Service have examined the source tree and other Douglas-fir at Badger Hill for symptoms of pitch canker. The fungus causing pitch canker was isolated from one tree at Badger Hill, but not from the source tree.
- The Forest Service, the State of California, research and forest industry are working together to form strategies for surveying and monitoring for pitch canker at locations adjacent to Badger Hill, in the Sierra Nevada, and at other genetic facilities throughout California.
- Movement of other genetic material from Badger Hill over the last several years is being investigated.
- The pathogen is classified by the California Department of Food and Agriculture as a "B-rated" pest (a lower rating than quarantine).
- In response to the detection, New Zealand increased quarantine restrictions on Douglas-fir and pine nursery stock, seed and wooden articles from the United States.